

Table A - LTCP CSO Program Costs

12/8/2017

Waterbody	Projects	Escalated Capital Project Costs (Design, CM, Construction) ⁶				Land Acquisition			CSO Reductions (Including Treated Volumes)						Construction Periods		
		Encumbered Cost (\$M)	Committed Costs (\$M) for FY18-FY27	Projected Costs (\$M) for FY28-FY37	Total Cost (\$M)	# Sites	Total Area (Acres)	Estimated Cost (\$M) ⁴	Baseline LTCP CSO Volume (MGY) ¹	LTCP Recommended Plan (MGY) ²	CSO Reduction (MGY) ³	CSO Volume Reduction (%)	CSO Bacteria Reduction (%)	Treated CSO Volume (MGY)	Construction NTP	Construction Completion	Midpoint of Construction
Alley Creek	Seasonal Disinfection @ CSO Retention Facility	\$2	\$11	\$0	\$13				132	132	0	0%	59%	78	2022	2024	2023
Bergen & Thurston Basins	TBD	\$0	TBD	TBD	TBD				Included with Jamaica Bay	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Bronx River	New Regulator and Floatables Control at HP-011 + Hydraulic Relief at Outfalls HP-007/-009	\$0	\$146	\$39	\$185				455	306	149	33%	33%	---	2023	2026	2025
Coney Island Creek	No Additional Projects	\$0	\$0	\$0	TBD				75	75	0	0%	0%	---	-	-	-
Flushing Bay	25 MG CSO Storage Tunnel (Outfalls BB-006 and BB-008)	\$0	- ⁵	\$1,241	\$1,241	1	4.5	\$180	1,453	706	747	51%	51%	---	2026	2035	2031
Flushing Creek	Floatables Control (Baffles) at Diversion Chamber 3 (Outfall TI-010) and Regulator TI-09 (Outfall TI-011)	\$8	\$38	\$0	\$46	2	1.5	\$60	1,201	1,201	0	0%	51%	584	2023	2025	2024
Gowanus Canal	8 MG Tank at RH-034 and 4 MG Tank at OH-007	\$79	\$735	\$120	\$934	2	2.5	\$100	263	115	148	56%	56%	---	2020	2028	2024
Hutchinson River	Diversion Structure with Floatables Control at HP 024	\$0	\$112	\$55	\$167	1	0.25	\$10	323	323	0	0%	14%	65	2026	2030	2028
Jamaica Bay and Tribs	TBD	\$0	TBD	\$0	TBD				1,536	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Paerdegat Basin	TBD	\$0	TBD	TBD	TBD				616	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
Newtown Creek	26 MGD BAPS Expansion and 39 MG Deep Tunnel	\$0	- ⁵	\$1,053	\$1,053	1	3.5	\$140	1,146	455	691	60%	60%	---	2026	2029	2027.5
Open Waters	TBD	\$0	TBD	TBD	TBD				12,207	TBD	TBD	TBD	TBD	TBD	2030	2042	2036
Westchester Creek	No Additional Projects	\$0	\$0	\$0	\$0				290	290	0	0%	0%	---	TBD	TBD	TBD
Total		\$89	\$1,780	\$2,508	\$4,377	7	12.25	\$490	19,697						-	-	-

(1)

Baseline CSO LTCP estimates annual overflow volume that is based on plants operating at permitted wet weather capacities, all committed grey and green infrastructure online, 2008 JFK rainfall data (~46" of rainfall), and updated CY2040 projected flows and loads.

(2)

LTCP Recommended Plan estimates annual overflow volume that is based on plants operating at permitted wet weather capacities, all committed grey and green infrastructure online, 2008 JFK rainfall data (~46" of rainfall), and updated CY2040 projected flows and loads. Please note that estimated volumes for the recommended CSO plan only includes costs and CSO reductions for LTCPs submitted to date; both the Open Waters and Jamaica Bay LTCPs are still being developed therefore no costs or CSO reductions are included for these waterbodies

(3)

The approved CSO LTCPs for Alley Creek, Hutchinson River and Flushing Creek recommend recreational season disinfection (May thru October); therefore there is no CSO reduction but a significant reduction in bacterial loading. For Alley Creek 100% of the overflow during the recreational season is treated and approximately 50%-60% of the overflows from Hutchinson River and Flushing Creek are disinfected during the recreational season.

(4)

The land acquisition costs are extrapolated based on recent negotiations in Gowanus Canal in which 2.5 acres is projected to cost about \$100 million.

(5)

FY18 Executive Ten Year Plan for FY18-FY27 has \$1.78 billion budgeted for LTCP. \$738 million is yet to be allocated by waterbody.

(6)

All costs associated with the CSO LTCP and CIP have been escalated out to mid point of construction using an escalation rate of 3.25% per year.

Table B - Committed Existing CSO Program Costs

12/8/2017

Waterbody	Projects	Total Project Costs (Design, CM, Construction, O&M)				CSO Reductions				Completion Date
		Encumbered Cost (\$M)	Committed Costs (\$M)	Total Cost (\$M)	O&M Cost (\$M/Yr)	Pre-WWFP CSO Volume (MGY) ¹	Baseline LTCP CSO Volume (MGY) ²	CSO Reduction (MGY)	CSO Volume Reduction (%)	
Alley Creek	CSO Retention Facility	\$139	\$0	\$139	\$0.4	517	132	385	74%	2011
Bergen & Thurston Basins	Warnerville Pumping Station and Force Main + Bending Weirs + Parallel Interceptor + Lateral Sewer	\$42	\$12	\$54		Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay
Bronx River	Maximize Flow to HP WWTP + Floatables Control	\$46	\$0	\$46		1,007	455	552	55%	2012
Coney Island Creek	Avenue V PS Expansion + Wet Weather Force Main	\$197	\$0	\$197		293	75	218	74%	2014
East River Open Waters	Bowery Bay Headworks + Port Richmond Throttling Facility + Tallman Island Conveyance + Outer Harbor CSO Regulator Improvements	\$196	\$0	\$196		16,165	12,207	3,958	24%	Completed
Flushing Bay	Regulator Modifications to High Level Interceptor + Low Lying Diversion Sewer + Environmental Dredging	\$69	\$0	\$69		2,328	1,453	875	38%	Ongoing
Flushing Creek	CSO Retention Facility + Vortex Facilities	\$363	\$0	\$363	\$2.3	2,413	1,201	1,212	50%	2007
Gowanus Canal	Gowanus PS Reconstruction + Flushing Tunnel	\$194	\$0	\$194		377	263	114	30%	2014
Hutchinson River	Hunts Point WWTP Headworks	\$3	\$0	\$3		390	323	67	17%	Completed
Jamaica Bay & Tribs	Sewer Improvements in 26W + 26W HLSS + Hendrix Creek Canal Dredging + Shellbank Destratification + Spring Creek AWCP Upgrade + 26 Ward Wet Weather Improvements	\$512	\$65	\$577	\$1.6	2,185	1,536	649	30%	Ongoing
Newtown Creek	Floatables Control + Bending Weirs + Plant Expansion + Instream Aeration	\$228	\$31	\$259		1,470	1,146	324	22%	2013
Paerdegat Basin	CSO Retention Facility	\$394	\$0	\$394	\$5.0	1,388	616	772	56%	2011
Westchester Creek	Weir Modifications + Pugsley Creek Parallel Sewer	\$124	\$0	\$124		767	290	477	62%	Ongoing
Green Infrastructure Program	Citywide GI Program ³	\$467	\$1,033	\$1,500	\$12.8	---	---	---	---	Ongoing
Total Cost		\$2,974	\$1,141	\$4,115	\$22.1	29,300	19,697	9,603	33%	

(1)

Pre WWFP is pre Waterbody Watershed Facility Plan estimates annual overflow volume that is based on 2003 wastewater treatment plant wet weather capacities, existing infrastructure in 2003, 1988 JFK rainfall data (~40" of rainfall), and CY2045 projected flows and loads.

(2)

Baseline CSO LTCP estimates annual overflow volume that is based on plants operating at permitted wet weather capacities, all committed grey and green infrastructure online, 2008 JFK rainfall data (~46" of rainfall), and updated CY2040 projected flows and loads.

(3)

The Citywide GI program committed costs are out to CY2030, the current 10 year capital improvement plan goes from FY2018 to FY2027 and is funded for approximately \$977 million. The existing projected O&M costs for encumbered GI is about \$4M with a projected cost of about \$15M associated with the full GI buildout.

Revised Table C - LTCP CSO Program Cost Breakdown for 100% CSO Control									
Waterbody	Year of Estimate	Unescalated Construction Costs (\$M) ⁽¹⁾	Unescalated Capital Costs (\$M) ⁽²⁾	Construction NTP ⁽³⁾	Construction Completion ⁽³⁾	Midpoint of Construction ⁽³⁾	100% CSO Control Escalated Capital Costs (\$B) ⁽⁴⁾	100% Control Assumptions	
								Project Description	Remaining CSO Outfalls Not Addressed
Alley Creek	2013	\$535 M	\$674 M	2035	2045	2040	\$1.6	29.5 MG Storage Tank for TI-025	TI-007, 0.1 MGY
Bergen & Thurston Basins	Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay	Included with Jamaica Bay		
Bronx River	2015	\$660 M	\$832 M	2037	2047	2042	\$2.0	60.9 MG Storage Tunnel for HP-004, HP-007, HP-008, HP-009	None
Coney Island Creek	2016	\$205 M	\$258 M	2035	2045	2040	\$0.6	13.4 MG Storage Tunnel for OH-021	None
Flushing Bay	2016	\$3,420 M	\$4,309 M	2037	2047	2042	\$9.9	66 MG Storage Tunnel and 400 MGD RTB for BB-006 and BB-008	BB-007 (38 MG); TI-012, TI-014 to TI-018 (48 MG total)
Flushing Creek	2014	\$1,686 M	\$2,124 M	2035	2045	2040	\$4.9	130 MG Storage Tunnel for TI-011, TI-012 and TI-022	None
Gowanus Canal	2015	\$846 M	\$1,066 M	2035	2045	2040	\$2.4	35 MG Storage Tunnel for RH-031, RH-033 to RH-038, OH-005 to OH-007, OH-024	None
Hutchinson River	2014	\$809 M	\$1,019 M	2035	2045	2040	\$2.3	43.5 MG Storage Tunnel for HP-023, HP-024, HP-031	None
Jamaica Bay and Tribs	2007	\$2,873 M	\$3,620 M	2025	2040	2033	\$8.2	Storage Tunnels for Bergen, Thurston and Fresh Creek.	Spring Creek Tank Discharge and Hendrix Creek
Paerdegat Basin	2006	\$2,206 M	\$2,780 M	2025	2040	2033	\$6.5	200 MG Storage Tank	None
Newtown Creek	2017	\$1,373 M	\$1,730 M	2040	2055	2048	\$4.6	138 MG Storage Tunnel and 100 MGD RTB for NC-015, NC-077, NC-083 and BB-026	Total of 17 outfalls (106 MG)
Citywide	2005	\$35,714 M	\$45,000 M	2030	2050	2040	\$137.8	69 mile long, 32-ft diameter storage tunnel with 8 pump-out facilities	None
Westchester Creek	2014	\$729 M	\$919 M	2035	2045	2040	\$2.1	50 MG Storage Tunnel for HP-012 to HP-016 and HP-033	None
Total	-	\$51,056 M	\$64,331 M	2025	2035	2030	\$182.8		

- Notes:
1. Estimated construction costs from recent LTCPs, except for Jamaica Bay and Tribs, Paerdegat Basin and Citywide. The costs for Jamaica Bay and Tribs, and Citywide are from the Waterbody/Watershed Facilities Plans, and the cost for Paerdegat Basin is from the 2006 Paerdegat Basin LTCP. Land acquisition costs are not included due to uncertainty over the extent of land acquisition needed.
 2. Capital costs include Design and ESDC costs at 26% of construction cost
 3. Implementation schedules for these projects are highly uncertain. No detailed engineering analysis was performed to determine if these projects are constructible, or to assess site acquisition requirements or other factors that could affect the implementation schedule.
 4. Costs escalated to assumed midpoint of construction, assuming escalation rate of 3.25% per year